



AF

TFW 1633

Atty. Docket No.: INGA, 004/CIP
Information Disclosure Statement
IDS filed: May 30, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: §
CONRAD § Group Art Unit: 1633
Serial No: 09/397,782 § Examiner: J. Martinell
Filed: Sept. 16, 1999 § Atty. Docket No: INGA,004/CIP
Title: IN VIVO PRODUCTION OF SSDNA USING REVERSE TRANSCRIPTASE WITH
PREDEFINED REACTION TERMINATION VIA STEM-LOOP FORMATION

TO:

Commissioner of Patents and Trademarks
PO Box 1450
Alexandria, VA 22313-1450

| | |
|---|---------------------------|
| CERTIFICATE OF MAILING (37 CFR 1.8a) | |
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope, addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450 | |
| Name: <u>Cindee R. Ewell</u> | Date: <u>May 30, 2006</u> |

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In compliance with Applicant's duty of candor and good faith, Applicant files this Information Disclosure Statement in accordance with the provisions of 37 CFR §§1.97 and 1.98 to make the references listed on the attached disclosure form PTO/SB/08 of record in the captioned application.

Also, in compliance with § 1.97, an information disclosure statement is herein filed within one of the following time periods:

- ☒ (1) the information disclosure statement is filed in the early stages of prosecution:
- ☐ within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);
 - ☐ within three months of the date of entry of the national stage as set forth in §1.491 in an international application;
 - ☐ before the mailing of a first Office action on the merits; OR
 - ☒ before the mailing of a first Office action after the filing of a request for continued examination under §1.114;

OR,

- ☐ (2) the information disclosure statement is filed before the mailing date of any of a final action under §1.113, a notice of allowance under §1.311, or an action that otherwise closes prosecution in the application, and it is accompanied by ONE OF:

- ☐ A statement as specified under 37 CFR 1.97(e):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement; OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in §1.56(c) more than three months prior to the filing of the information disclosure statement.

OR,

- ☐ The fee set forth in §1.17(p),

OR,

- ☐ (3) the information disclosure statement is filed on or before payment of the issue fee and is accompanied by:

- ☐ The statement specified under 37 CFR 1.97(e);

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement; OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

AND,

- ☐ The fee set forth in §1.17(p).

Also, in accordance with the above provisions, please find:

- ☒ A copy of an earlier filed Information Disclosure Statement from a related but earlier filed application containing similar subject matter which may be material to the patentability of this continuation, divisional or continuation-in-part application.

The earlier filed information disclosure statement was submitted for application:

| | |
|---------------|---|
| SN 08/236,504 | IDS filed June 3, 1996 (INGA,002) |
| SN 09/169,793 | IDS filed Oct. 18, 2000 (INGA,004) |
| SN 09/169,793 | Supplemental IDS filed May 17, 2006 (INGA,004) |
| SN 09/169,793 | 2 nd Supp. IDS filed May 30, 2006 (INGA,004) |

Applicant hereby requests consideration of the art previously cited on the copies provided.

- ☒ A copy of search reports provided by official examining authorities for applications containing similar subject matter which may be material to the patentability of this application.

The search reports were generated for applications:

| | | |
|--------------------|----------------------|--------------------|
| PCT/US99/23936 | Filed Oct. 12, 1999 | (INGA,004/PCT) |
| PCT/US00/27381 | Filed Oct. 4, 2000 | (INGA,004/CIP/PCT) |
| PCT/US99/23933 | Filed Oct. 12, 1999 | (CRYA,008/PCT) |
| PCT/US03/13593 | Filed Oct. 21, 2003 | (CRYA,018/PCT) |
| PCT/US03/39033 | Filed Sept. 8, 2004 | (CRYA,023/PCT) |
| SN 09/397,783 | Filed Sept. 16, 1999 | (CRYA,008) |
| SN 10/136,218 | Filed May 1, 2002 | (CRYA,018) |
| SN 10/313,828 | Filed Dec. 6, 2002 | (CRYA,023) |
| SN 10/453,410 | Filed June 3, 2003 | (CRYA,025) |
| SN 10/818,158 | Filed April 5, 2004 | (CRYA,025/C/CIP) |
| Written Opinion | PCT/US99/23936 | (INGA,004/PCT) |
| Written Opinion | PCT/US00/27381 | (INGA,004/CIP/PCT) |
| Written Opinion | PCT/US99/23933 | (CRYA,008/PCT) |
| Examination Report | EP 99 950 296.6 | (INGA,004/PCT) |

Applicant hereby requests consideration of the art cited on the copies provided.

- ☒ An Information Disclosure Statement in accordance with §1.98(a)(1);
- ☒ Legible Copies in accordance with §1.98(a)(2) of:
- (i) each foreign patent;
 - (ii) each publication or that portion which caused it to be listed, other than U.S. patents and U.S. patent application publications unless required by the Office;
 - (iii) for each cited pending unpublished U.S. application, the application specification including the claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion; and
 - (iv) all other information or that portion which caused it to be listed.
- ☐ In accordance with §1.98(a)(3), for documents not in the English language:
- ☐ a concise explanation of the relevance, as it is presently understood by the individual designated in §1.56(c) most knowledgeable about the content of the information, of each patent, publication, or other information listed that is not in the English language;

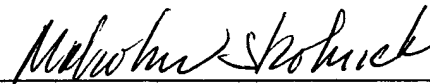
AND,

- ☐ a copy of the translation if a written English-language translation of a non-English-language document, or portion thereof, is within the possession, custody, or control of, or is readily available to any individual designated in §1.56(c).
- ☐ A Check in the amount of the fee set forth in 37 CFR §1.17(p) in accordance with 37 CFR §§1.97(c)(2) and 1.97(d)(2).
- ☒ A Revocation of Power of Attorney with New Power of Attorney and Change of Correspondence Address with New Power of Attorney and Change of Correspondence Address
- ☒ A copy of Statement under 37 CFR 3.73(b) and any required accompanying documents.
- ☒ A stamped, self-addressed Postcard acknowledging receipt of this document and the accompanying documents as listed herein above.

Please return the enclosed postcard, properly date stamped, to the undersigned attorney for Applicant upon receipt of the enclosed correspondence.

In the event a check covering the appropriate fee(s) is not enclosed, is unsigned, or is insufficient in amount, or any other mistake is made by Applicant which should incur additional fees, the Commissioner is authorized to charge Deposit Account No: 50-3748 (INGA,004/CIP) for the amount of any deficiency.

Respectfully submitted,



Malcolm Skolnick
Reg. No. 33788
CytoGenix, Inc.
3100 Wilcrest Drive, Suite 140
Houston, Texas 77042
TEL: (713) 789-0070
FAX: (713) 789-0702
ATTORNEY FOR APPLICANT

Date: May 26, 2006

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number: 09/397,782
 Filing Date: September 16, 1999
 First Named Inventor: Charles CONRAD
 Art Unit: 1631
 Examiner Name: James Martinell
 Attorney Docket Number: INGA, 004/CIP



Sheet 1 of 1

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Document Number | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|----------|-----------------|------------------|---|---|
| | 1 | US-5840867 | 11/24/98 | TOOLE, J.J., et al. | |
| | 2 | US-5910408 | 6/8/99 | SZOSTAK, et al. | |
| | | | | | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Foreign Patent Document Country Code- Number-Kind Code | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|----------|--|------------------|---|---|
| | | | | | |
| | | | | | |

NON PATENT LITERATURE DOCUMENTS

| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-------------------|----------|---|----------------|
| | 3 | MOHUCZY, D. et al., <i>Antisense Inhibition of AT1 Receptor in Vascular Smooth Muscle Cells Using Adeno-Associated Virus-Based Vector</i> , Hypertension, pg 354-59, Part II, January 1999 | |
| | | | |

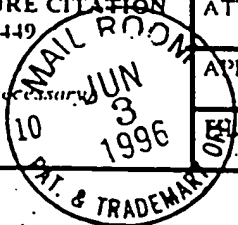
EXAMINER
SIGNATURE _____

DATE
CONSIDERED _____

Applicant's
Copy

002

| | | |
|--|---------------------------------|---------------------------|
| INFORMATION DISCLOSURE CITATION P.T.O. FORM 1449 (Use several sheets if necessary) | ATTY. DOCKET NO.: IATA.002 | SERIAL NO.: 08-236,504 |
| | APPLICANT: Charles A. Conrad | |
| | FILING DATE: April 29, 1994 | GROUP: 1804 |



RECEIVED
JUN 14 1996

U.S. PATENT DOCUMENTS

GROUP 1800

| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|---------------------|-----------------|------|------|-------|----------|-------------------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | | | | | | | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION | |
|--|--|-----------------|--|--|--|--|--|--|------|---------|-------|----------|-------------|----|
| | | | | | | | | | | | | | YES | NO |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Papers, Etc.)

| | | |
|---|--|--|
| L | | Colvin, Richard A., et al., "Structural Features of an RNA Containing the CUGGGA Loop of the Human Immunodeficiency Virus Type 1 Trans-Activation Response Element," <i>Biochemistry</i> 1993, 32, 1105-1112 |
| L | | Pollack, Jonathan R., et al., "An RNA Stem-Loop Structure Directs Hepatitis B Virus Genomic RNA Encapsidation," <i>Journal of Virology</i> 3254-3263 (June 1993) |
| L | | D'Souza, D.J., et al., "Strong Binding of Single-stranded DNA by Stem-loop Oligonucleotides," <i>Journal of Biomolecular Structure & Dynamics</i> 10:141 (1992) |
| L | | Ohshima, A., et al., "In vivo duplication of genetic elements by the formation of stem-loop DNA without a RNA intermediate," <i>Biochemistry</i> 89:1016 (1992) |
| L | | Mead, D.A., et al., "A universal method for the direct cloning of PCR amplified nucleic acid," <i>Biotechnology</i> , Vol. 9:657 (1991) |
| L | | Xodo, L.E., et al., "DNA hairpin loops in solution. Correlation between primary structure, thermostability and reactivity with single-strand-specific nuclease from mung bean," <i>Nucleic Acids Research</i> 19:1505 (1991) |
| L | | Barabino, Silvia, et al., "Antisense probes targeted to an internal domain in U2 snRNP specifically inhibit the second step of pre-mRNA splicing," <i>Nucleic Acids Research</i> , Vol. 20, No. 17, 4457-4464 (1992) |
| L | | Nag, Dillip K., et al., "Seven-Base-Pair Inverted Repeats in DNA Form Stable Hairpins in Vivo in <i>Saccharomyces cerevisiae</i> ," <i>Genetics</i> 129: 669-673 (November 1991) |

7/1/94

11/22/96

OTHER DOCUMENTS, Continued (Including Author, Title, Date, Pertinent Papers, Etc.)

| | | |
|----------|--|---|
| L | | Vickers, T., et al. "Inhibition of HIV-LTR gene expression by oligonucleotides targeted to the TAR element." Nucleic Acids Research. Vol. 19, No. 12, 3359-3368 (1991) |
| L | | Vicira, J., et al. "Production of single-stranded plasmid DNA." Methods Enzymol 153:3 (1987) |
| L | | Baumann, U., et al. "Conformational analysis of hairpin oligodeoxynucleotides by a single-strand-specific nuclease." Eur. J. Biochem. 161:409 (1986) |
| L | | Peters, B.P.H., et al. "Plasmid pKUN9, a versatile vector for the selective packaging of both DNA strands into single-stranded DNA-containing phage-like particles." Gene 41:39 (1986) |
| L | | Yanisch-Perron, C., "Improved M13 phage cloning vectors and host strains: Nucleotide sequences of the M13mp18 and pUC19 vectors," Gene 33:103 (1985) |
| L | | Levinson, A., et al. "Minimal size plasmids containing an M13 origin for production of single-strand transducing particles," J. Mol. Appl. Genet. 2:507 (1984) |
| L | | Drew, Horace R., "Structural Specificities of Five Commonly Used DNA Nucleases," J. Mol. Biol. 176, 535-557 (1984) |
| L | | Dente, L., et al. "pE1BL: A new family of single stranded plasmids," Nucleic Acids Res. 11:1645 (1983) |
| L | | Messing, J., et al. "A new pair of M13 vectors for selecting either DNA strand of double-digest restriction fragments," Gene 19:269 (1982) |
| L | | Beck, E., et al. "Nucleotide sequence and genome organization of filamentous bacteriophages f1 and fd," Gene 16:35 (1981) |
| L | | Dotto, Gian P., et al., "Functional Analysis of Bacteriophage f1 Intergenic Region," Virology 114, 463-473 (1981) |
| L | | Cleary, J.M., et al. "Replicating of the plasmid pBR322 under the control of a cloned replication origin from the single-stranded DNA phage M13," Proc. Natl. Acad. Sci. 77:4638 (1980) |
| L | | Herrmann, R., et al. "Conversion of bacteriophage fd into an efficient single-stranded DNA vector system," Mol. Gen. Genet. 177:231 (1980) |
| L | | Messing, J., "A multipurpose cloning system based on single-stranded DNA bacteriophage M13," Recomb. DNA Tech. Bull. 2(2):43 (1979) |
| L | | Beck, E., et al. "Nucleotide sequence of bacteriophage fd DNA," Nucleic Acids Res. 5:4495 (1978) |
| L | | Konings, R.N.H., et al. "Transcription of the filamentous phage genome." The Single-stranded DNA phages (ed. D.T.Denhardt et al.), 507 (1978) |
| L | | Messing, J., et al. "Filamentous coliphage M13 as a cloning vehicle: Insertion of a HindIII fragment of the lac regulatory region in M13 replicative form in vitro," Proc. Natl. Acad. Sci., 74:3642 (1977) |
| L | | Marvin, D.A., "Filamentous bacterial viruses," Bacteriol. Rev. 33:172 (1969) |
| EXAMINER | | DATE CONSIDERED |
| J. H. H. | | 8/22/96 |

EXAMINER: Initial of reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

P101.144: Patent and Trademark Office U.S. Department of Commerce (Modified)

004

RECEIVED
OCT 25 2000
TECH CENTRAL

| | | |
|--|--|----------------------------------|
| INFORMATION DISCLOSURE CITATION P.T.O. FORM 1449 (Page 1 of 3) | ATTY. DOCKET NO.: INGA,004 | SERIAL NO.: 09/169,793 |
| | APPLICANT: Charles A. Conrad | |
| | FILING DATE: October 9, 1998 | GROUP: 1646 |

U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|------------------|-----------------|------------|-----------------|-------|----------|----------------------------|
| L | 5 8 0 8 0 3 6 | 9/15/1998 | Kool | 536 | 24.3 | |
| L | 5 4 3 6 1 4 1 | 7/25/1995 | Miyata, et al. | 435 | 91.1 | |
| L | 5 3 2 0 9 5 8 | 6/14/1994 | Inouye, et al. | 435 | 194 | |
| L | 5 3 1 2 7 2 8 | 5/17/1994 | Lizardi, et al. | 435 | 6 | |
| L | 5 2 7 8 0 5 1 | 1/11/1994 | Seeman, et al. | 435 | 91.52 | |
| L | 5 2 7 2 0 6 5 | 12/21/1993 | Inouye, et al. | 435 | 91.1 | |
| L | 5 2 1 5 8 9 9 | 6/1/1993 | Dattagupta | 435 | 6 | |
| L | 5 2 0 8 1 4 9 | 5/4/1993 | Inouye | 435 | 91 | |
| L | 5 1 9 0 9 3 1 | 3/2/1993 | Inouye | 435 | 91 | |
| L | 5 1 6 2 2 0 9 | 11/10/1992 | Scheele | 435 | 91 | |
| L | 5 0 7 9 1 5 1 | 1/7/1992 | Lampson, et al. | 435 | 91 | |
| L | 4 3 5 7 4 2 1 | 11/2/1982 | Eintage, et al. | 435 | 68 | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION | |
|--------|---|-----------------|---------------|------------|-----------|-------|----------|-------------|----|
| | | | | | | | | YES | NO |
| 5/3/01 | L | WO | 9 5 3 5 3 6 9 | 28.12.1995 | PCT WO | — | — | | |
| 5/3/01 | L | WO | 9 4 2 3 0 2 6 | 03.10.1994 | PCT WO | — | — | | * |
| 5/3/01 | L | WO | 9 4 2 0 6 3 9 | 15.09.1994 | PCT WO | — | — | | |
| 5/3/01 | L | WO | 9 4 1 3 6 8 9 | 23.06.1994 | PCT WO | — | — | | |
| 5/3/01 | L | WO | 9 4 0 1 5 5 0 | 20.01.1994 | PCT WO | — | — | | |
| 5/3/01 | L | GB | 2 3 1 9 7 7 3 | 03.06.1998 | UK | — | — | | |
| 5/3/01 | L | | 0 5 6 2 2 0 6 | 29.09.1993 | Europe EP | — | — | | |
| 5/3/01 | L | | 0 5 3 2 3 8 0 | 17.03.1993 | Europe EP | — | — | | |
| 5/3/01 | L | | 0 5 3 0 1 1 2 | 03.03.1993 | Europe EP | — | — | | |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Papers, Etc.)

| | | | |
|--------|---|--|---|
| 5/3/01 | L | | Tanese, Naoko, et al. "Domain structure of the Moloney murine leukemia virus reverse transcriptase: Mutational analysis and separate expression of the DNA polymerase and RNase H activities," <i>Biochemistry</i> , Vol. 85, pp. 1777-1781 (1998). <i>Proc. Natl. Acad. Sci. USA</i> |
| | L | | Mao, Jau-Ren, et al. "Gene regulation by antisense DNA produced in vivo," <i>The Journal of Biological Chemistry</i> , Vol. 270, No. 34, pp 19684-19687 (1995). |
| | L | | Crooke, Stanley T., et al. "Kinetic characteristics of Escherichia coli RNase H1: cleavage of various antisense oligonucleotide-RNA duplexes," <i>Biochem. J.</i> , Vol. 312, pp. 599-608 (1995). |
| | L | | Marquet, R., et al. "tRNAs as primer of reverse transcriptases," <i>Biochimie</i> , Vol. 77, pp. 113-124 (1995). |
| | L | | Sands, Howard, et al. "Biodistribution and Metabolism of Internally 3H-Labeled Oligonucleotides. II. 3',5'-blocked Oligonucleotides," <i>Molecular Pharmacology</i> , Vol. 47, pp. 636-646 (1995). |
| | L | | Woolf, Tod M. "To Cleave or Not to Cleave: Ribozymes and Antisense," <i>Antisense Research and Development</i> , Vol. 5, pp. 227-232 (1995). |

Applicant's
Copy

| | | |
|--|-------------------|-------------|
| INFORMATION DISCLOSURE CITATION P.T.O. FORM 1449 (Page 2 of 3) | ATTY. DOCKET NO.: | SERIAL NO.: |
| | INGA,004 | 09/169,793 |
| | APPLICANT: | |
| | Charles A. Conrad | |
| | FILING DATE: | GROUP: |
| | October 9, 1998 | 1646 |

RECEIVE
OCT 25 2000

OTHER DOCUMENTS, Continued (Including Author, Title, Date, Pertinent Papers, Etc.)

TECH CF

| | | |
|---|--|--|
| | | Mirochnitchenko, Oleg, et al. "Production of single-stranded DNA in mammalian cells by means of a bacterial retron," The Journal of Biological Chemistry, Vol. 269, No. 4, pp 2380-2383 (1994). |
| L | | Inouye, Sumiko, et al. "The retron: a bacterial retroelement required for the synthesis of msDNA," Current Biology, pp 713-718 (1993). |
| L | | Colvin, Richard A., et al. "Structural Features of an RNA Containing the CUGGGA Loop of the Human Immunodeficiency Virus Type 1 Trans-Activation Response Element," Biochemistry, Vol. 32, No. 4, pp. 1105-1112 (1993). |
| L | | Pollack, Jonathan R., et al. "An RNA Stem-Loop Structure Directs Hepatitis B. Virus Genomic RNA Encapsidation," Journal of Virology, Vol. 67, pp. 3254-3263 (1993). |
| L | | Silver, Jonathan, et al. "An RT-PCR assay for the enzyme activity of reverse transcriptase capable of detecting single virions," Nucleic Acids Research, Vol. 21, No. 15, pp. 3593-3594 (1993). |
| L | | D'Souza, D.J., et al. "Strong Binding of Single-stranded DNA by Stem-loop Oligonucleotides," Journal of Biomolecular Structure & Dynamics, Vol. 10, pp. 141-151 (1992). |
| L | | Gao, Wen-Yi, et al. "Phosphorothioate Oligonucleotides Are Inhibitors of Human DNA Polymerases and RNase H: Implications for Antisense Technology," Molecular Pharmacology, Vol. 41, pp. 223-229 (1992). |
| L | | Ohshima, Atsushi, et al. "In Vivo Duplication of Genetic Elements by the Formation of Stem-Loop DNA Without an RNA Intermediate," The Journal of Proc. Natl. Acad. Sci. USA, Vol. 89, pp. 1016-1020 (1992). |
| L | | Bocklage, Hubertus, et al. "Cloning and characterization of the MboII restriction-modification system," Nucleic Acids Research, Vol. 19, No. 5, pp. 1007-1013 (1991). |
| L | | Nag, Dilip K., et al. "Seven-Base-Pair Inverted Repeats in DNA Form Stable Hairpins in Vivo in Saccharomyces cerevisiae," Genetics, Vol. 129, pp. 669-673 (1991). |
| L | | Vickers, T., et al. "Inhibition of HIV-LTR gene expression by oligonucleotides targeted to the TAR element," Nucleic Acids Research, Vol. 19, No. 12, pp. 3359-3368 (1991). |
| L | | Xodo, L.E., et al. "DNA hairpin loops in solution. Correlation between primary structure, thermostability and reactivity with single-strand-specific nuclease from mung bean," Nucleic Acids Research, Vol. 19, No. 7, pp. 1505-1511 (1991). |
| L | | Tsurimoto, Toshiki, et al. "Replication Factors Required for SV40 DNA Replication in Vitro," The Journal of Biological Chemistry, Vol. 266, No. 1, pp. 1950-1959 (1991). |
| L | | Merchinsky, Michael, "Resolution of Poxvirus Telomeres: Processing of Vaccinia Virus Concatenated Junctions by Conservative Strand Exchange," Journal of Virology, Vol. 64, No. 7, pp. 3437-3446 (1990). |
| L | | Manzini, Giorgio, et al. "Triple Helix Formation by Oligopurine-oligopyrimidine DNA Fragments," J. Mol. Biol., Vol. 213, pp. 833-843 (1990). |
| L | | Alberts, Bruce, et al. Molecular Biology of The Cell (Garland Publishing, New York, NY), pp. 255-257 (1989). |

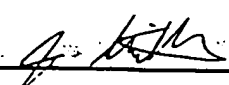
[Signature] 5/3/01

| | | |
|--|--|----------------------------------|
| INFORMATION DISCLOSURE CITATION P.T.O. FORM 1449 (Page 3 of 3) | ATTY. DOCKET NO.: INGA,004 | SERIAL NO.: 09/169,793 |
| | APPLICANT: Charles A. Conrad | |
| | FILING DATE: October 9, 1998 | GROUP: 1646 |

RECEIVED

OCT 25 2000

OTHER DOCUMENTS, Continued (Including Author, Title, Date, Pertinent Papers, Etc.)

| | | | |
|--|--|--|--|
| ✓ | | | Maher, Louis J. III, et al. "Inhibition of DNA Binding Proteins by Oligonucleotide-Directed Triple Helix Formation," Science, Vol. 245, pp. 725-730 (1989). |
| ✓ | | | Chomczynski, Piotr, et al. "Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction," Analytical Biochemistry, Vol. 162, pp. 145-159 (1987). |
| ✓ | | | Vieira, Jeffrey, et al. "Production of single-stranded plasmid DNA," Methods in Enzymology, Vol. 153, pp. 3-11 (1987). |
| ✓ | | | Nobile, Carlo, et al. "Stable Stem-Loop and Cruciform DNA Structures: Isolation of Mutants with Rearrangements of the Palindromic Sequence at the Simian Virus 40 Replication Origin," Intervirology, Vol. 25, pp. 158-171 (1986). |
| ✓ | | | Darnell, James E., et al. Molecular Cell Biology (Scientific American Books, Inc., New York, NY), pp. 438-440 (1986). |
| ✓ | | | Baumann, Ulrich, et al. "Conformational analysis of hairpin oligodeoxyribonucleotides by a single-strand-specific nuclease," Eur. J. Biochem., Vol. 161, pp. 409-413 (1986). |
| ✓ | | | Kikuchi, Yo, et al. "Hairpin plasmid - a novel linear DNA of perfect hairpin structure," The FMOB Journal, Vol. 4, No. 7, pp. 1881-1886 (1985). |
| ✓ | | | Drew, Horace R. "Structural Specificities of Five Commonly Used DNA Nucleases," J. Mol. Biol., Vol. 176, pp. 535-557 (1984). |
| ✓ | | | Land, Hartmut, et al. "5'-Terminal sequences of eucaryotic mRNA can be cloned with high efficiency," Nucleic Acids Research, Vol. 9, No. 10, pp. 2251-2266 (1981). |
| ✓ | | | Shinnick, Thomas M., et al. "Nucleotide sequence of Moloney murine leukemia virus," Nature, Vol. 293, pp. 543-548 (1981). |
| ✓ | | | Herrmann, Richard, et al. "Conversion of bacteriophage fd into an efficient single-stranded DNA vector system," Mol. Gen. Genet. Vol. 177, pp. 231-242 (1980). |
| ✓ | | | Donis-Keller, Helen. "Site specific enzymatic cleavage of RNA," Nucleic Acids Research, Vol. 7, No. 1, pp. 179-192 (1979). |
| ✓ | | | Beggs, Jean D. "Transformation of yeast by a replicating hybrid plasmid," Nature, Vol. 275, pp. 104-109 (1978). |
| ✓ | | | Toulmé, Jean-Jacques, et al. "Selecting, preparing and handling antisense oligodeoxyribonucleotides," Source and date of publication unknown, pp. 39-74. |
| | | | |
| | | | |
| | | | |
| EXAMINER  | | | DATE CONSIDERED 5/3/01 |

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

004/supp.

**SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Sheet 1 of 2

Application Number: 09/169,793
 Filing Date: Oct. 9, 1998
 First Named Inventor: Charles CONRAD
 Art Unit: 1631
 Examiner Name: James Martinell
 Attorney Docket Number: INGA, 004

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Document Number | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|----------|-----------------|------------------|---|---|
| | 1 | US-5714323 | 02-1998 | OHSIMA, A., INOUE, et al. | |
| | 2 | US-5756291 | 05-1998 | GRIFFIN, et al. | |
| | 3 | US-5807718 | 09-1998 | JOYCE, G.F. and BREAKER, R.R. | |
| | 4 | US-5503978 | 04-1999 | SCHNEIDER, et al. | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Foreign Patent Document Country Code- Number-Kind Code | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|--------------------|----------|--|------------------|---|---|
| | 5 | WO-9529993 | 11/9/95 | NABEL, G.J., et al. | |

NON PATENT LITERATURE DOCUMENTS

| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-------------------|----------|---|----------------|
| | 6 | BARABINO, S., et al., <i>Antisense probes targeted to an internal domain in U2 snRNP specifically inhibit the second step of pre-Nrma splicing</i> , Nucleic Acids Research, 20 (17): 4457-4464, 1992 | |
| | 7 | BECK, E., et al., <i>Nucleotide sequence and genome organization of filamentous bacteriophages f1 and fd</i> , Gene, 16: 35, 1981 | |
| | 8 | BECK, E., et al., <i>Nucleotide sequence of bacteriophage fd DNA</i> , Nucleic Acids Res. 5: 4495, 1978 | |
| | 9 | BENNETT, et al., <i>Inhibition of Endothelial Cell Adhesion Molecule Expression with Antisense Oligonucleotides</i> , Journal of Immunology, 152: 3530-3540, 1994 | |
| | 10 | BRANCH, A. Trends in Biochem. Sci., Vol 23, pgs 45-50 (1998) | |
| | 11 | CHAN, et al., <i>Triplex DNA: Fundamentals, Advances, and Potential Applications for Gene Therapy</i> , J. Mol. Med., 75: 267-282, 1997 | |
| | 12 | CLACKSON, <i>Controlling mammalian gene expression with small molecules</i> , Current Opinion in Chemical Biology, 1: 210-218, 1997 | |
| | 13 | CLEARY, J.M., et al., <i>Replication of the plasmid pBR322 under the control of a cloned replication origin from the single-stranded DNA phage M13</i> , PNAS, 77: 4638, 1980 | |
| | 14 | CROOKE, S. <i>Antisense Research and Application</i> , Chapter 1, pgs 1-50, Ed. by S. Crook, Publ. by Springer-Verlag (1998) | |
| | 15 | DAUM, G., et al., <i>The ins and outs of raf kinases</i> , Trends in Biochemical Sciences, 19: 474-480, 1994 | |

EXAMINER
SIGNATURE _____

DATE
CONSIDERED _____

**SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Sheet 1 of 2

Application Number: 09/169,793
Filing Date: Oct. 9, 1998
First Named Inventor: Charles CONRAD
Art Unit: 1631
Examiner Name: James Martinell
Attorney Docket Number: INGA, 004

| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|----------------------|-------------|---|----------------|
| | 16 | DENTE, L., et al., <i>pEMBL, A new family of single stranded plasmids</i> , Nucleic Acids Res., 11: 1645, 1983 | |
| | 17 | DHUNDALE, A., et al., <i>Structure of msDNA from Myxococcus xanthus: Evidence for a Long, self-Annealing RNA Precursor for the Covalently Linked, Branched RNA</i> , Cell, 51: 1105-1112, Dec 1987 | |
| | 18 | DOTTO, G.P., et al., <i>Functional Analysis of Bacteriophage ϕ1 Intergenic Region</i> , Virology, 114: 463-473, 1981 | |
| | 19 | FOSSE', P., et al., <i>Modified Nucleotides of tRNA^{Pro} Restrict Interactions in the Binary Primer/ Template Complex of M-MuLV</i> , J. Mol. Biol., 275: 731-746, 1998 | |
| | 20 | HELENE, C. and TOULME, J., Biochim. Biophys. Acta., 1049: 99-125, 1990 | |
| | 21 | KIM, K., et al., <i>A Mutational Study of the Site-Specific Cleavage of EC83, a Multicopy Single-Stranded DNA (msDNA): Nucleotides at the msDNA Stem Are Important for Its Cleavage</i> , Journal of Bacteriology, 179(20): 6518-6521, 1997 | |
| | 22 | KONINGS, R.N.H., et al., <i>Transcription of the filamentous phage genome</i> , The Single-stranded DNA phages (ed. D.T. Denhardt et al.), pp. 507, 1978 | |
| | 23 | LAMPSON, Bert C., et al., <i>Reverse Transcriptase in a Clinical Strain of Escherichia coli: Production of Branched RNA-Linked msDNA</i> , Research Articles, Science, 243: 1033-38, Feb 1989 | |
| | 24 | LEVINSON, A., et al., <i>Minimal size plasmids containing and M13 origin for production of single-strand transducing particles</i> , J. Mol. Appl. Genet 2: 507, 1984 | |
| | 25 | LIEBER, Andre, et al., <i>Selection of Efficient Cleavage Sites in Target RNAs by Using a Ribozyme Expression Library</i> , Molecular and Cellular Biology, 15 (1): 540-551, Jan 1995 | |
| | 26 | LIMA, Tania M. and Lim, Dongbin, <i>A Novel Retron That Produces RNA-less msDNA in Escherichia coli Using Reverse Transcriptase</i> , Plasmid, 38: 25-33, June 1997 | |
| | 27 | MAO, Jau-Ren, et al., <i>msDNA-Ec48, the smallest Multicopy Single-Stranded DNA from Escherichia coli</i> , Journal of Bacteriology, 179 (24): 7865-7868, Dec 1997 | |
| | 28 | MARVIN, D.A., <i>Filamentous bacterial viruses</i> , Bacteriol. Rev., 33:172, 1969 | |
| | 29 | MEAD, D.A., et al., <i>A universal method for the direct cloning of PCR amplified nucleic acid</i> , Biotechnology, 9: 657, 1991 | |
| | 30 | MILLER, P.S., <i>Oligodeoxynucleotides: Antisense Inhibitors of Gene Expression</i> , J.S. Cohen (ed.), CRC Press: Boca Raton, pp. 79, 1989 | |
| | 31 | MIYATA, S., et al., <i>In vivo production of a stable single-stranded cDNA in Saccharomyces cerevisiae by means of a bacterial retron</i> , PNAS, 89: 5735-5739 Biochemistry, July 1992 | |
| | 32 | NOONBERG, et al., <i>In Vivo Generation of Highly Abundant Sequence-Specific Oligonucleotides for Antisense and Triplex Gene Regulation</i> , Nucleic Acids Res., 22: 2830-2836, 1994 | |
| | 33 | PEETERS, B.P.H., et al., <i>Plasmid pKUN9, a versatile vector for the selective packaging of both DNA strands into single-stranded DNA-containing phagelike particles</i> , Gene 41: 39, 1986 | |
| | 34 | PETROPOULOS, C.J., <i>Retroviral taxonomy, protein structure, sequences and genetic maps</i> , J.M Coffin (Ed.), Retroviruses, 757-805, Appendix 2, New York: Cold Springs Harbor Press, 1997 | |
| | 35 | SANTORO, S.W. and Joyce, G. F., <i>A general purpose RNA-cleaving DNA enzyme</i> , PNAS, 94: 4262-4266, Biochemistry, April 1997 | |
| | 36 | SANTORO, S.W. and Joyce, G. F., <i>Mechanism and Utility of an RNA-Cleaving DNA Enzyme</i> , Biochemistry, 37 (38): 13330-13342, July 1998 | |
| | 37 | SEIDMAN, et al. <i>Introduction of Plasmid DNA into Cells</i> , in Current Protocols in Molecular Biology, Unit 1.8 (1997) | |
| | 38 | YANISCH-PERRON, C., <i>Improved M13 phage cloning vectors and host strains: Nucleotide sequences of the M13mp18 and pUC19 vectors</i> , Gene 33: 103, 1985 | |

EXAMINER
SIGNATURE _____

DATE
CONSIDERED _____

**SECOND SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

Sheet 1 of 1

Application Number: 09/169,793
 Filing Date: Oct. 9, 1998
 First Named Inventor: Charles CONRAD
 Art Unit: 1631 / 1633
 Examiner Name: James Martinell
 Attorney Docket Number: INGA, 004

U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Document Number | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|-----------------------|-------------|--------------------|---------------------|--|---|
| | | | | | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. | Foreign Patent Document Country Code- Number-Kind Code | Publication date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|-----------------------|-------------|---|---------------------|--|---|
| | | | | | |

NON PATENT LITERATURE DOCUMENTS

| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|----------------------|-------------|---|----------------|
| | 1 | AGRAWAL, S., et al., <i>Antisense Research and Application</i> , Chapter 1, pg. 1-50, ed. S. Crooke, Springer-Verlag, 1998. | |
| | 2 | BREAKER, R.R., <i>In Vitro Selection of Catalytic Polynucleotides</i> , Chem. Rev., 97: 371-90, 1997 | |
| | | | |

EXAMINER
SIGNATURE _____ DATE
CONSIDERED _____